

## THE CLAIMS

What is claimed is:

1. A process for the cryo-preservation of plant tissues comprising the steps of  
5 dehydrating, pre-freezing and cryo-freezing plant derived tissue, wherein the plant tissue to be cryo-preserved is a primary explant that has been subjected to an induction treatment for regeneration.
2. The process of claim 1, wherein the plant tissue is derived from a orthodox species.
3. The process of claim 1, wherein the plant tissue is derived from a semi-recalcitrant species.
4. The process of claim 1, wherein the plant tissue is derived from a recalcitrant  
15 species.
5. The process of claim 1, wherein the plant tissue is a primary explant capable to regenerate buds.
6. The process of claim 1, wherein the plant tissue is a primary explant capable to  
20 regenerate embryos.
7. The process of claim 1, wherein the plant tissue utilized is derived from a plant belonging to the species *Theobroma cacao*, *Coffea canephora*, *Coffea arabica* and their interspecific hybrids or *Daucus carota*.  
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8. The process of claim 7, wherein the plant tissue utilized is derived from *Coffea canephora* or *Coffea arabica*.
9. The process of claim 7, wherein the plant tissue utilized is derived from cacao.  
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10. The process of claim 7, wherein the plant tissue utilized is derived from carrots.

11. The process of claim 1, wherein the dehydration step involves the use of a two step incubation of the explants in a medium containing 0.4 M sucrose in the first step and in a medium containing 1 M sucrose in the second step.
- 5 12. The process of claim 1 wherein prior to the dehydration step, the explants are pretreated in a culture medium that has an increased sucrose content.
13. The process of claim 12, wherein the sucrose content of the culture medium has a concentration of at least 1M.